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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,371	11/10/2001	Shrenik Deliwala	053168-5003-02	4467

7590 10/19/2004
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EXAMINER

DOAN, JENNIFER

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/991,371	Applicant(s) DELIWALA ET AL.	
	Examiner Jennifer Doan	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-28,32,33 and 37-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 45-48 and 52-56 is/are rejected.
- 7) ☒ Claim(s) 5-7,9-28,32,33,37-44,49-51,57 and 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' communication filed on 07/30/2004 has been carefully studied by the Examiner. The arguments advanced therein, considered together with the newly added claims, are persuasive. In view of further search, however, and the consequent discovery of a relevant prior art document, a new rejection is set forth below. This action is made final.

Specification

1. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4, 45-48 and 52-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gurtler et al. (U.S. Patent 3,699,407).

With respect to claims 1, 53 and 56, Gurtler et al. (figure 1) disclose a method and an apparatus of a light coupling assembly comprising a device portion including an optical device arranged in a first fixed pattern (a Schottky barrier detector in column 2, line 65); a light coupling portion including an anisotropically etched coupling element (12) arranged in a second fixed pattern so as to correspond with a respective optical device (as shown in figure 1), wherein the light coupling portion is disposed in an aligned arrangement with the device portion (see figure 1).

Gurtler et al. do not disclose a plurality of optical devices and a plurality of anisotropically etched coupling elements. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to reproduce the optical devices and the anisotropically etched coupling elements, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With respect to claims 2 and 54, Gurtler et al. (figure 1) disclose a securing portion (22) where the anisotropically etched coupling element is secured relative to a respective optical device.

With respect to claims 3 and 55, Gurtler et al. (column 4, lines 27-28) disclose the securing portion including material selected from the group consisting of an adhesive material and a bonding material such as epoxy.

With respect to claim 4, Gurtler et al. (column 2, lines 5-16) disclose the anisotropically etched coupling element and the respective optical device combine to form a hybrid active electronic and optical circuit including an active electronic device and at least one optical device.

With respect to claim 45, Gurtler et al. disclose all the limitations of the claimed invention except for the anisotropically etched coupling element being KOH etched waveguide prism. However, it is a well known material; thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the above material to make the KOH etched waveguide prism for forming the anisotropically etched coupling element, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claim 46, Gurtler et al. (figure 1) disclose the device portion (20) having silicon on insulator (SOI).

With respect to claim 47, Gurtler et al. (figure 3 and column 2, line 8) disclose the light coupling portion includes an optical/electronic I/O flip chip.

With respect to claim 48, Gurtler et al. disclose all the limitations of the claimed invention except for the light coupling assembly comprising an arrayed waveguide (AWG). However, the AWG is considered to be obvious, since it is commonly used in an optical communication system. Such an element would advantageously provide a better optical signal transmission. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Gurtler's device with an AWG for obtaining a better optical signal transmission.

With respect to claim 52, Gurtler et al. (column 2, line 65) disclose the light coupling assembly includes a Schottky device.

Allowable Subject Matter

5. Claims 5-7, 9-28, 32, 33, 37-44, 49-51, 57 and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to disclose or reasonably suggest a light coupling assembly including an evanescent coupling region is formed from a gap portion that couples the input and output light coupler to the optical device using evanescent coupling as recited in claims 5, 49 and 58; wherein the securing portion includes an atomic bonding of the device portion to the light coupling portion as recited in claim 57.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00 am to 3:30 pm, second Friday off.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2874

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Doan
Patent Examiner
October 17, 2004



AKM ENAYET ULLAH
PRIMARY EXAMINER